

KOKANEE REDD EXPOSURE AND HATCHING SUCCESS IN
RELATION TO RECEDING FLATHEAD LAKE LEVELS

April 3, 1968

Location: Rollins Bay, north for a distance of approximately 100 yards.

Seven kokanee redds were marked on December 12, 1967 at various depths ranging from 2.4 feet to 5.3 feet below lake level elevation (2890.5 feet) (Figure 1).

When examined on April 3, 1968, five of the seven redds were exposed above the lake level surface. Lake level elevation dropped to 2885.5 feet on this date.

When examined on April 23, 1968, all seven redds were exposed above the lake level surface (2884.5 feet) (Table 1). On this date, all redds were excavated to determine if live eggs or fry were present. Numerous live sac-fry and free swimming fry were observed in the gravel at depths of 6 inches to 1 foot at stations 1 and 4. Both stations had incoming surface and sub-surface flow through the gravel. However, no fish or viable eggs could be accounted for at the remaining 5 stations. The gravel was damp but probably not moist enough to sustain egg development.

From this brief study, an assumption can be made that kokanee spawning success between high and low winter water elevations can only be attained where inter-gravel flow of water occurs from surface or subsurface sources.

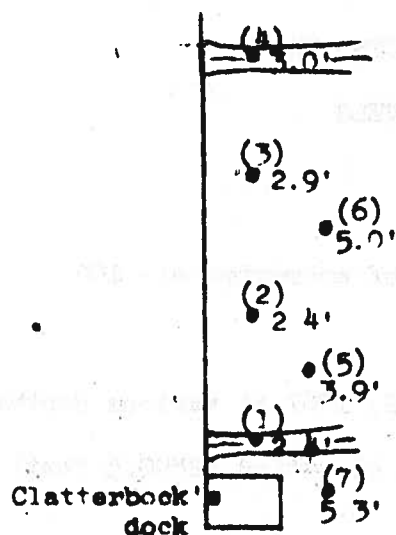


Figure 1. Approximate location of marked redds showing depth below water surface.

Table 1. Exposure of redds at receding lake elevations.

Stations	Depth below surface	Elevation when redds exposed	Date exposed
* (1) West Tall Post	2.4'	2888.1	February 3
(2) East Tall Post	2.4'	2888.1	February 3
(3) Middle Post	2.9'	2887.6	February 13
* (4) East Post	3.0'	2887.5	February 13
(5) Middle Block	3.9'	2886.6	March 14
(6) East Concrete Block	5.0'	2885.5	April 4
(7) West Concrete Block	5.3'	2885.2	April 9

* Subsurface and surface flow from feeder streams.